

*Notes of the Author's Journey to
Spain, 1836.*

NEW TREATMENT
OF
MALIGNANT DISEASES,
AND
CANCER,
WITHOUT INCISION.

BY
A. M. BUREAUD RIOFREY, M. D.

Tota Chirurgia et Medicina desiderant Medicamentum ad canorem.—

BOERHAVIUS.

Pour réussir avec les caustiques, il faut avoir acquis par l'habitude une certaine hardiesse, et atteindre toujours le but qu'on se propose, la destruction des tissus malades.—BARBIER.—Dio. des Sci. Med.

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PREFACE.

SINCE the commencement of my medical career, I have paid particular attention to Cancerous diseases: it was not, therefore, without considerable interest that, in December, 1834, my notice was drawn to the newly discovered method of treating Cancer by the Chloride of Zinc; although the animated debates of the Academy of Medicine, in Paris, were calculated to throw some doubt upon its ultimate utility. Entertaining, however, within myself, opinions that have since been realized, I determined, in June last, to visit Paris, and make my own observations upon the effects of the newly discovered Caustic. I had previously received Dr. CANQUOIN's published Memoir, and finding its information very insuf-

ficient, I was more particularly induced to the course I pursued, by a communication from Dr. C., through the medium of a mutual friend, that I should be better satisfied by visiting his patients; I therefore left my own practice, in which I had several persons afflicted with Cancers, and for whom my journey was not a little important.

I had requested a young Surgeon of my acquaintance, to attend any patient who might, during my absence, require immediate care.

On my return from Paris, I mentioned to Mr. LAWRENCE, the advantages that Chloride of Zinc possessed, and how far preferable its application was, in Cancerous diseases, to any other Caustic, when these diseases were to be cured by eschars. Mr. LAWRENCE kindly promised to entrust some patients, at St. Bartholomew's Hospital, to my care, and I have, in this memoir, stated two cases of persons whom I attended there. Mr. LAWRENCE has likewise, in his private practice, employed some of the paste which I prepared for him.

After witnessing the happy consequences arising from the application of Chloride of

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Zinc, I could not possibly doubt its efficacy; but being desirous of introducing so valuable a remedy in England, and wishing it to become public, I was glad to give a specimen of its powers in one of the first hospitals in London.

Whilst awaiting the result of the application on several patients, it came to my knowledge, that the young Surgeon who had taken my place during my stay in Paris,—to whom I had communicated the object of my journey, and on my return, imparted the result of my observations,—had published *his* researches on a new method of curing the Cancer.

For the interest of science I rejoiced at this information; hoping also myself to acquire some new ideas on a subject which so deeply interested me: but I was not a little surprised to find these researches confined to the *discovery* of DR. CANQUOIN'S memoir, and to the translation of it! I must admit I was also somewhat disappointed at being deprived of the honor of *first* introducing the chloride of Zinc into this country; and cannot avoid feeling, that however trifling the honor may be, yet that it is due to me alone. It certainly would have

been more prudent to have withheld all communication as to the object and result of my journey to Paris, until the publication of my memoir.

I commenced applying the chloride of Zinc at St. Bartholomew's Hospital, early in September; and with my private patients, immediately on my return from Paris. The time is undoubtedly short to bring a memoir before the public, and it was not my intention to have been so precipitate, but for the publication of the *researches* of the young Surgeon I have before alluded to, in which no mention is made of the cases I had treated at St. Bartholomew's Hospital, although I had shewn them to him: but I can prove to those who may require facts, that I have since August last, made numerous applications of the chloride of Zinc; and all have proved successful. I have not only seen the persons whose cases are mentioned in DR. CANQUOIN'S memoir; but many others cured by this mode of treatment. If any patients who have had the escharotic paste applied, still remain in St. Bartholomew's Hospital; I should wish every medical man to visit them.

DR. CANQUOIN has named the paste of chloride of Zinc, Phagedænic paste; but I prefer calling it Escharotic, because this appellation seems to give a clearer idea of the effect produced by this valuable caustic. The word phagedænic is generally used for gnawing ulcerations that cannot easily be limited, whereas the effect of the paste of chloride of Zinc is on the contrary limited, and this property is one of its chief merits; the name of Escharotic therefore appeared more suitable.

I have included in this memoir some observations on the action of the caustics generally employed, wishing to unite all the necessary elements for treating cancerous affections, by an *escharotic method*. I do not think that the Chloride of Zinc can suffice to effect a complete cure of every species of malignant disease. Each Caustic possesses its distinct property of modifying the subjacent tissues, and all should be well studied and understood to be properly applied.

This memoir merely contains the elements of a useful work, which yet remains to be written on the local action of Caustics, as well as on

their reflected action on the corresponding or sympathetic organs; for instance, Arsenic does not act only on the local tissue, but extends to the principle of life.

All concentrated Acids are escharotic, but Gold, Argentum, Mercury, Iodine, Chlorine, Zinc, Antimony, etc. have each a distinct and peculiar property of modifying the effects of the Caustic that destroys the tissues, and must be severally employed or adapted to the various indications. The *Escharotic method* does not therefore consist in the indiscriminate application of this agent; but in the *choice* and judicious employment of all the means sanctioned by experience; and for this reason I have brought all the Caustics before the reader.

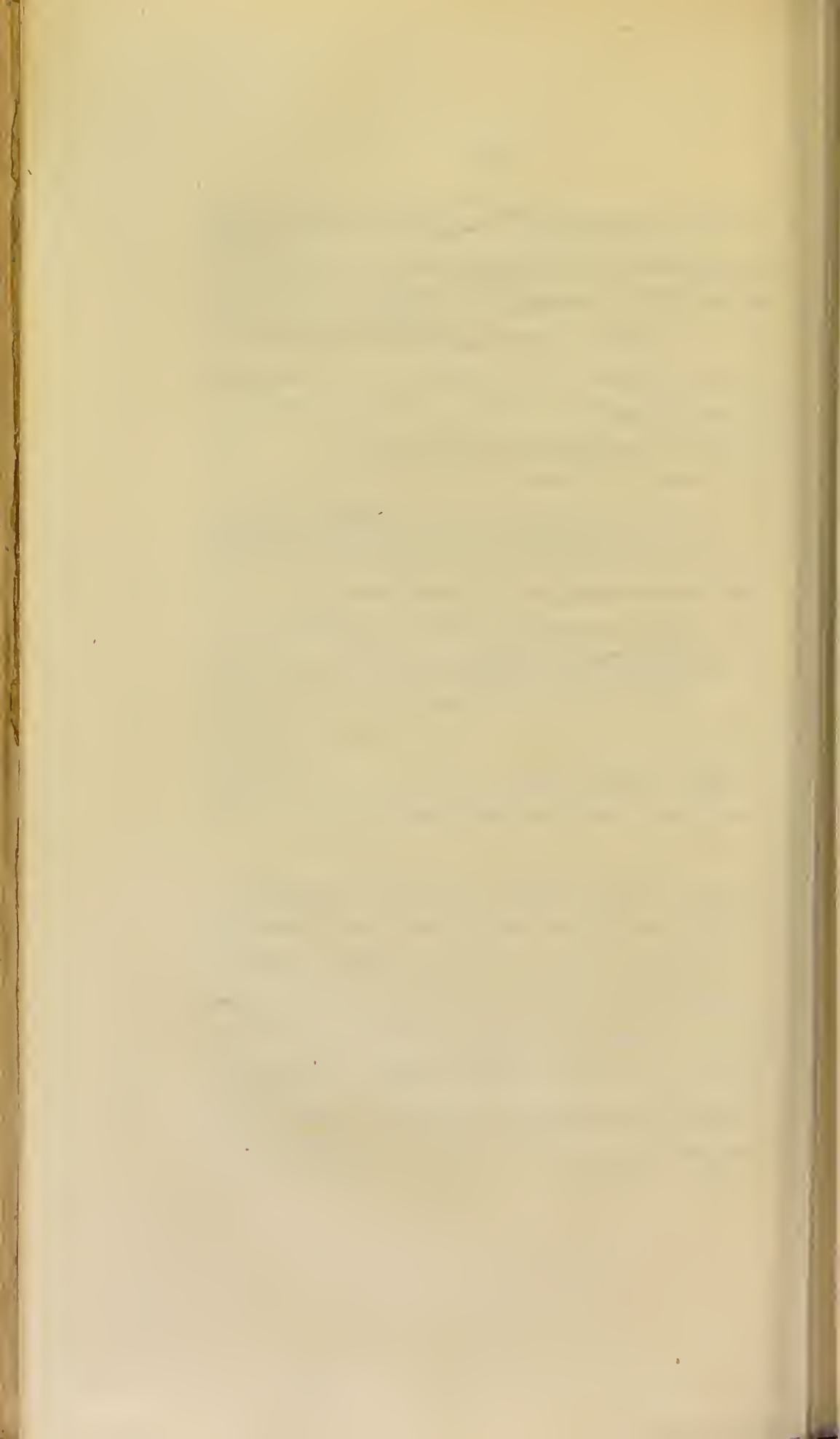
Although it must be acknowledged that the discovery and use of the escharotic paste of chloride of Zinc is one of the greatest improvements in the treatment and cure of Cancers; yet to assert that *every* Cancer may be cured merely by a caustic, would be to descend from the elevated and noble position of an honorable practitioner, to that of an untutored empiric.

At a later period I shall give an ample development of the propositions sketched in this memoir, and shall be happy to communicate to my fellow practitioners any information they may require on the subject; and gratified if they transmit to me the result of the cases they meet with in their own practice.

A. M. BUREAUD RIOFREY, M. D.

22, Newman Street, Oxford Street,

4th January, 1836.



NEW TREATMENT
OF
MALIGNANT DISEASES.

&c. &c.

CANCEROUS diseases have generally resisted the most energetic measures of medicine and surgery; and most medical men have deplored the inefficacy of art in diseases that seemed to be incurable. In cancerous affections there is something irreparable, which leaves the principle of life mortally wounded.

Convinced of the great advantage to be derived from the study of etiology, as to the remedy to be employed, it will not, I hope, be

considered irrelative, that I should offer some observations on the nature of cancerous tumours, previous to entering into what I have to state on the application of Caustics and Chloride of Zinc.

Formerly when Cancer was considered as a devouring animal, it was natural to offer it nourishment; and when looked upon as a separate parasitical being, existing upon the vitals of its victim, poisons seemed properly applied for its destruction. But this theory has at length been banished. The researches of pathological anatomy render it no longer possible to believe in its existence as a separate and independent being.

That Cancers are, in the first instance, local, whether proceeding from a known irritation, or hidden or neglected cause, is an opinion borne out by that of many medical men, and in that light most cases of Cancer must be considered, to justify the numerous operations that daily take place.

If in answer to this observation, it be said, that surgical operations are performed without expecting a permanent cure, but with a view only, to free the sufferer from deformities, or to

prolong existence, I shall avoid all discussion, and merely reply, that according to this principle, the Escarotic Paste will have the same effect, and can be employed at least when the patients will not submit to a surgical operation.

I am of opinion that Cancer is dependent on an anomaly of nutrition, caused by an affection of the nervous extremities, and a want of equilibrium between the secretive and absorbent functions; or rather, it is the result of a *necrosis* of a nervous extremity. This statement requires some explanation.

In my Work on Physical Education, the fundamental proposition is, that *growth governs life*; the phenomenon of growth well considered in all its phases, may lead to valuable results on hypertrophy of the anormal tissues, particularly when it ceases to act, through the increase of the whole economy.

During the first period of life, the body is in a state of habitual increase and improvement. If the growth of the organs be made without effort, if the human body acquires its development without accident, and without being arrested in its ascending course, this facility of growth preserves infancy, childhood, and

manhood from numerous diseases. But, if any accident causes the animal sap to deviate from its natural course, the effort of growth may be drawn towards the affected organ.

Man remains but a short time in that state of equilibrium in which he receives just sufficient materials to repair the general waste; and as in the first half of life the weak organs become the central point of fluxionary motion, and morbid phenomena; thus also in the second period, the organs that have suffered either in their primitive development, or through fatigue, accident, age or malady; become the seat of disease.

The ancients were convinced that every individual had a relative weakness in some organ. If this proposition be adopted, at a certain age, when the body has completed its growth, if the same materials be introduced, with a less expenditure, there will be a superabundance of nutrition throughout the whole economy; the weak organ then becomes the centre of growth, and it is at this time of life that the diseases to which I allude, are generally observed to assume a marked character of hypertrophy, and the cure of them is considered more or less difficult according to the energy of the absorbent

vessels, at that period less excited by muscular action.

When man attains the age of fifty he generally begins to enjoy himself; he has in youth and manhood obtained the means of rendering existence more agreeable; his physical activity decreases because he has less need of it; he ceases his most laborious occupations, and gives himself up to the pleasures of the table, thus wasting less, and acquiring more. From this mode of life result all hypertrophic diseases; obstruction of the viscera, piles, stone, gout, obesity, schirrus, &c.

This disposition of the economy: these *superfloraisons*, are never so forcibly observed as in females, during what is termed, the critical age, between forty and fifty. Two organs seem particularly liable to the woeful privilege of preserving that formative strength so remarkable in woman: and these organs are precisely those which, in their healthy state, fill most important functions.

The womb, and the breast, from the time of puberty, to the critical age, have great vitality, and a productive, or secretive power. When the functions of these organs cease; when they

may be said to exist no more for their appointed purpose, they are nevertheless during a certain period, the centre of a flowing and generative movement: and if these organs have suffered, or are too weak to act upon the nutritive fluids which abound, they become the seat of polypus, schirrus, and various malignant or cancerous excrescences.

Man and woman have both a critical period to get over. At a certain age, they have a superabundance of the nutritive particles necessary to growth, that give rise to numerous affections, among which are obstructions, polypus, schirrus, tumours, &c. &c.

In both sexes towards this critical period there is a partial cessation of functionary action. In all the parts of the body there are nervous capillaries which *die*, like the small branches of trees that we see covered with moss and vegetation, and the leaves which turn yellow and fall, in autumn, for want of a due supply of sap and warmth.

When the nervous influence ceases to reach a capillary extremity, either disorder exists in the functions of the arterial or nervous extremity, or the artery dies and atrophy supervenes;

or if it does not die, and continues to secrete nutritive particles, these particles which are not absorbed, are frequently the primitive cause of a tumour, or of an induration.

The nervous influence of the brain vivifies and regulates all the functions of life. When that influence no longer exists, and the secretion continues in any part, there is then a production of mixed tissues; and it is observable, that in these anormal productions, as in all monstrosities, nature is guided by rule, even in the midst of disorder.

In the nutritive particle that supports and increases the tumour, fibrous tissues stuck together, cartilaginous tissues adhering to cartilaginous tissues, form those white bands and membranes, that have exercised the sagacity of many celebrated physicians.

When a schirrous tumour is cut away, there are found fibrous, cartilaginous, fat or bony tissues, so that tissues of the same nature are generally together, and become united to others by transitive shades. When the sanguine particle predominates, which is the case in some persons, sanguinary fungous excrescences, which grow with striking rapidity, are observed. The

tissues which form the vessels, are reproduced like all the tissues of the economy; the nervous substance exists also in the particles of arterial blood which reaches the capillary extremities. The schirrous, cancerous, encephœloid and sarcomatous tissues are not foreign bodies, but a production analogous to the tissues of animal bodies, which are misplaced.

Sufficient importance is not generally attached to the effects of the nervous action. It must be remembered that moral affections have the strongest influence in chronic diseases. In most cases, cancer and schirrous maladies have originated in moral affections.

The celebrated DESSAULT observed, that the misfortunes, and terrible catastrophe of the french revolution had considerably increased the number of cancerous diseases. History presents us with a frightful picture of the influence of moral affections in producing Cancers. NAPOLEON, previous to his exile, enjoyed perfect health; he was strong and robust, and so indefatigable that the world could scarcely contain him: but when, at St. Helena, like a new Prometheus, he was chained to a rock, a prey to his grief, he nourished the Cancer that was to lead him to his grave.

What are the consequences of grief? The heart, the stomach, and the epigastric region are oppressed; all the tissues seem withered. Joy, on the contrary, dilates them; the heart then beats freely, and the whole body seems to expand. Sorrow produces general languor; the nervous extremities lose their influence on the capillary, sanguine, or lymphatic vessels; the motion of the fluids seem interrupted; the liver has but little secretion—sometimes indeed it has none, and this fact may account for the numerous concretions so common to hypocondriacs.

The different maladies which may have existed for a certain time, are not also sufficiently attended to; cancerous diseases are too often considered as constitutional, when a more attentive inquiry would prove, that some cutaneous disease, or critical discharge, had been incautiously suppressed; the equilibrium of health had been destroyed, and a *metastasis* had thrown all the suppressed matter on the weaker organs, already predisposed to cancer. I do not hesitate affirming, that generally, cancerous diseases are produced by a *metastasis*, or grief, after which may be classed, contusions, or local irritations.

As the various parts of the body are in connexion with each other, no organ can be deprived of its functions, without injuring the harmony of the economy. It is not then surprising, that an organ condemned injudiciously to inactivity, or *inertie*, becomes weak; this explains the frequency of Cancers on the breast in mothers, who do not nurse their children; of the womb in barren women, or those who live in a state of celibacy; and the number of cancerous diseases which are so common at that time of life, when the breast and womb cease their functions, particularly when females do not follow a regimen, suited to this critical period.

From these general considerations, arises the treatment of cancerous affections, which must be varied according to the period of the disease, according to the local irritation, the moral pains, and all the circumstances commemorative of previous maladies. At its commencement, it is possible to avoid the irritation or the central point of anormal formation, and prevent its fatal termination. When this happy result cannot be hoped for, and the anormal produce is compact; or, when it oppresses the neighbouring organs, it plays the part of Vanhelmont's thorn. If allowed to remain in the tissue, it becomes

the central point of a fluxionary movement: later on, the local irritation propagates, and to make use of MR. TRAVERS' expression, is *reflected*, becomes constitutional, and produces what is termed a *diathesis*. In the constant succession of these anomalies, there is no retrocession, no delay, no cure, unless the principle of the evil be eradicated. But what is to be done when this cancerous thorn increases, and grows again after excision?

As life cannot be restored to the *necrosis* of an extremity, the branch that supports the capillaries must be cut, and the gland of the breast treated as though it were the extremity of a gangrenous limb. The healthy parts must be acted on: if the induration be only the result of an inflammation, the usual antiphlogistic means will suffice; but when there is schirrus, there is a *thorn*; when there is cancer, there is death, partial death in the tissues. If there be an ulceration, *pus*, and *sanies*; if any particle of the corrupted matter, which flows from those ulcerations, be reabsorbed, then there is absorption of animal poison, as in the bites of venomous reptiles, or in the wounds of dissecting instruments: the corrupted fluids are carried on by the circulation, infect the whole economy, and produce the cancerous *diathesis*.

After the most suitable, and energetic local means have been employed, for the local disease, it is necessary to act on the constitution, and in some way change, and correct *the morbid habits*, and endeavor to moderate the activity of nutrition, for nutrition has an active part in producing morbid tissues: *impura corpora quo magis nutriveris eo magis lædes*.* Thus local treatment must be employed for local disease and general means used to work on the whole constitution. After having spoken of the means of treating these cancerous diseases locally, by topical applications, I shall hereafter state what means seem necessary to modify the constitution.

OF THE SCHIRRUS.

THE Schirrus may be considered as the seed of the Cancer; sometimes it remains in the economy without causing any pain; neither does it increase in size; sometimes a mere induration is mistaken for a schirrus, and with the aid of divers applications is cured by absorption; at other times the schirrus spreads round the adjacent parts, and presses on the organs essential to life, but more frequently becomes soft and ulcerated.

* Hypp.

In all cases when hardness appears in any of these places fatally disposed to cancer: when no doubt remains as to the nature of the induration; when schirrus exists, and increases, and presents a progressive character: when it is fixed under the skin, and causes lancinating pains, whatever may be its species, no time should be lost in employing proper means to remove it.

When the schirrus becomes soft or ulcerated; when the ulceration is deep, and of an ashy colour; secretes a fetid and ichorus discharge, irritating the surrounding parts; when the edges are irregular, and turned down, and the pain is lancinating, whatever name may be given to *malignant diseases*, the point on which Physicians and Surgeons agree is, that the methods of treating the local cancer, which have proved successful, are excision, and cauterization. There are instances where excision alone is possible, others in which cauterization is preferable.



OF CAUTERIZATION.

DIFFERENTLY appreciated at various periods, cauterization was only employed on surfaces

of small extent; it was besides necessary to discover the means of taking away the cancerous part, without too frequent applications.

All practitioners had remarked, that at certain times, there were in cancerous diseases, a period when, to make use of SIR BENJAMIN BRODIE'S happy expression, the anormal tissues were surrounded by a *morbid atmosphere*, and it did not then suffice to take off the cancerous tissues, but all the surrounding ones must also be cut away or disinfected; and a therapeutic agent was to be sought for, that had the power of taking off all the cancerous part, and at the same time possessing the means of clearing the infection from the surrounding parts. These purposes seem most effectually attained by the employment of the chloride of Zinc; an agent, I am happy in making known, as powerful in its operation and certain in its result.

The Caustics generally employed have only a superficial action, because they cannot be kept on, for any length of time, in a liquid state, and those used in powder, under the name of arsenic paste, are in many respects dangerous. DR. CANQUOIN says, that among all the caustics chemistry has made known to us, a sub-

stance must be sought, that can destroy the tissues with energy, (acting with as little pain as possible) without the danger of venemous absorption, and which can be limited in its action to the surface, and to the depth required.

All these advantages are offered by the chloride of Zinc. "I applied it," says DR. CANQUOIN, in his first report to the Academy of Medicine, in Paris, "in the first instance, in powder, but it did not act sufficiently. I at last, however, succeeded in preparing it in an elastic paste, which does not become hard, nor fall in *deliquium*, nor lose any of its caustic properties by keeping. This paste applied to the skin, acts vigorously on the surface covered by it, to a depth proportioned to its strength, and thickness, and with such precision, that between a surface of half a line and a surface of two inches, I can go over all the intermediate space."

I shall now give a few observations which I made, accompanied by DR. CANQUOIN, when visiting his own patients, from which an idea may be formed of the power of the escharotic paste.

CASE 1.

Cancer of the Breast.

Madame Delahaye, aged forty-three, living in Paris, menses irregular, scrofulous constitution, having already had several cutaneous diseases: seven years ago her infant sucked her breast so violently, that an irritation ensued; the breast became wrinkled, it seemed drawn and supported by strings: the pain was felt at the nipple. Nothing was seen for eight months, but at this time the glands became hard, they were distant from each other.

In December, 1833, MR. JULES CLOQUET performed an operation, and the wound got well; but three months afterwards a fresh tumour appeared, and a second operation became necessary. When on the 4th of May, 1835, the escharotic paste was employed, there was a lump as large as an egg; it was adherent and cartilaginous. Three applications were made: the two first were preparations of the chloride of Zinc: at the end of five weeks the wound, which was six inches in circumference, was in good healing condition. I saw the patient before I left Paris, the 16th June, 1835. I have

not yet ascertained the concluding particulars of this case, but DR. GIROUX, assistant to MR. J. CLOQUET, under whose care the patient was, has promised to let me know the result.

When I saw the patient she was, in MR. CANQUOIN's opinion, confined to her bed with a *sciatica*, but MESSRS. CLOQUET and GIROUX thought it was a tumour weighing on the sciatic nerves. A case less favorable, either for excision, or cauterization, could not have been found. The patient had a lymphatic and scrofulous constitution; had undergone much mental suffering, and had been affected with herpetic diseases; there was consequently but little resource.

CASE II.

Cancer of the Breast. Axillary Glands.

Madame C., of Versailles, aged fifty; had an indurated gland in her breast for fifteen years; she felt drawing pains at the nipple; the pain continued as far as the arm-pit; the knotty parts were at the top of the left breast, and the pain was intolerable. Five years since DR. G. proposed excising the gland, but the patient declined the operation; the Doctor then pre-

scribed hemlock poultices, gelatinous baths, bladders or mercurial applications, neither of which had any good effect. Another Physician being consulted, advised an operation, which the patient refused to submit to: leeches, linseed and hemlock poultices were applied, and one of the leech bites became sore and continued to suppurate for two years. A third Physician was consulted, who advised *nothing*. Six months later, blood and matter issued from the wound. At the end of May, the patient consented to the application of caustics, and the chloride of Zinc was applied twice. When I first saw the patient, all the tissues between the breast, and the arm-pit, were taken off by an Eschar, part of the pectoral muscle was clear and healthy. I afterwards saw the patient several times, the wound was healing rapidly, and I have since received intimation that her cure had been perfect; she was free from all pain, and had no fear of a relapse.

All the glands had been detached, even under the arm-pits. I observed that atrophy had taken place in several vessels, but there had been no hæmorrhage, the paste had acted precisely as could be wished, for it had carried off the cellular tissue, and the glands of the arm-pit only; the sore was three inches wide,

and eight inches long. I left this patient in excellent condition, with a conviction that she would do well, and the event has justified my opinion.

CASE III.

Cancer on the left Breast, length ten inches.

Mad. B. aged forty-five, living in a farm, near Beauvais, had been ill for two years. One day a beggar came to the door, walked in, and seeing her alone, did not beg, but desired her to give him whatever she had in the house. The servants being out, Mad. B. submitted quietly, yet the beggar threatened to cut her throat: she was frightened, jumped on horseback, and hastened to her neighbours to seek assistance. Her servants arrived in time to catch the miscreant, and deliver him over to the hands of justice.

Whether Mad. B. received a blow while running, or in her haste to get on horseback, or whether from the effect of fright, a few days after, she felt lancinating pains in her breast, with hardness of many of the glands.

Several applications were made; the first on the 29th of April. On the 15th June, I saw the

patient; nearly all the inferior part of the left breast had been taken off, and the sore was almost healed.

Neither of these patients had that yellow complexion so often met with in persons affected with cancerous diseases; all the functions were regular; there were no constitutional symptoms, and however large the sores, they were in a fair way of being cured.

CASE IV.

Enormous Cancer of the Breast, ten inches long, and five inches wide.

Mad. S. sixty-three years of age, a very stout person, eighteen years ago, felt a hard lump in her breast; leeches were applied, and vegetable poultices put on. Mad. S. then took mineral waters, and shower baths on her breast, but discontinued them, as they did not agree with her: she had had nearly two hundred leeches on: the pain increased so that she could scarcely move her arm on account of the swelling of the arm-pit; pain was felt in the breast: an operation advised, but the patient refused to submit to it.

Mad. S. had had much sorrow; she said she felt more pain in her breast when anything occurred to distress her.

Before the paste was applied, the breast was hard, cartilaginous, and the nipple withered. When I saw this patient, she had a great deal of fever, her complexion was yellow, and she had all the appearance of a *diathesis* or cancerous constitution. With these untoward symptoms, and considering she was sixty-three years of age, I did not think her recovery probable..

Many more examples might be added of patients, who had been attended for Cancers on the cheek, the lips, and the nostrils, whom I have seen *perfectly cured*, but I shall confine myself, to one or two observations, on malignant disease, in cases, which have occasioned some publicity, the experiments having been made in St. Bartholomew's Hospital

In the early part of August last, I mentioned to MR. LAWRENCE, the celebrated Surgeon, that there existed a caustic which could be applied when the patient refused to submit to an operation, and I am happy to offer a public testimony of my gratitude to that Gentleman, for having kindly allowed me the opportunity

of making known to the British Nation, so valuable a remedy. Superior minds do not reject the advantages which science affords, because they are tendered by a foreigner. A Physician, from the nature of his profession, is the friend of humanity: his proper place is the abode of suffering and grief, without National distinction; and it is one of the most pleasing reflections upon the advancement of intellect, that the spirit of animosity formerly existing between France and England, has given way to a noble, and generous emulation.

CASE V.

Malignant disease of the under Lip.

The Patient cauterized in St. Bartholomew's Hospital.—MR. LAWRENCE'S Ward.

William Oliver was admitted into the hospital on the 4th September, and placed in Henry's ward. This young man had an ulcer, extending over two-thirds of the under lip, from right to left, terminating at the meeting of the great zigomatic with the orbicular of the lips: the ulceration was seated on a hard basis, which seemed to follow the direction of the orbicular

muscle: this state of induration was more marked towards the commissure of the lips, and extended to the mucous membrane of the mouth, which was hard and schirrous: the surface of the sore was uneven; the edges turned over. According to the patient's account, his lips were chapped by the cold, and while in that state he frequently bit them. He went to an Apothecary, who applied salve, and the sore got worse.

When admitted into the hospital, an opening medicine was given, and plaster of caustic potass put on the sore.

The 18th of September, twelve leeches were applied; pills.

On the 28th. pills of col. and cal.; sarsaparilla and a fresh application of potass, &c; refreshing poultices; but, according to the statement of the patient, and the assistant, the sore remained nearly the same.

On the 10th of October, I saw the patient, and applied the chloride of zinc. On the 11th I took off the dressing; there was a white eschar, well limited.

The 12th. Soothing poultices.

13th. The same.

14th. The eschar began to separate.

15th. The eschar came off; it was three lines deep, and an inch and a half long; there still remained a hardness near the commissure of the lips.

20th. Another partial application was made, and some of the affected parts taken off; the patient suffered but little; the wound looked well, and improved rapidly; there remained however three indurated points, and it became doubtful whether or no the paste should be again resorted to; for it was to be feared, that the bottom lip might be deformed. Had I been enabled to choose my patients, I should probably have rejected this one; for when I examined his lip, I saw that the escharotic application was less indicated than in other cases, and that when the eschar came off, it would cause a deformity; besides which, it was impossible to be perfectly acquainted with the depth of the hardened tissue. This first attempt was merely made, to prove that the escharotic paste had a limited effect; and

if it could have been applied on any part where taking off the dead flesh would not have caused a deformity, I should have wished the patient to have been cured with the paste alone, and have not the slightest doubt but the cure would have been complete. But however desirous one may feel to make known a new therapeutic, that which contributes most to the patient's good, must not be lost sight of; I therefore thought a suture might answer, after an incision, and I made no new application. The patient has been discharged.

The case I have just mentioned, is not a failure: the first application I made, was meant not only to free the patient from his ulceration, but to shew the advantages that can be derived from the escharotic paste; the result has fully justified my expectations; and the practitioner can only employ, in any case, the remedy he judges suitable. The observations to be drawn from this case are, that the sore looked well, after the eschar had come off; that the effect of the eschar was limited; that the patient might have been cured by this method alone, and that I only gave it up on his account. In short, if this escharotic was employed for Cancers, either on the temple, the breast, the legs and

other parts of the body, it would be preferable to a surgical operation.

CASE VI.

Melanic Cancer on the right Leg, six inches in length, four in breadth. Ulceration under the internal malleolus.

John Smith, thirty-eight years old, a journeyman carpenter, from Ramsgate, received several wounds in his right leg, under the internal *malleolus*; six years ago there was a black lump sticking to the skin. Six months since an excrescence appeared, underneath the malleolus, which soon became ulcerated. Several applications of caustic potass were made, without giving any favorable result.

On the 20th of October he was admitted into St. Bartholomew's Hospital, in one of MR. LAWRENCE'S wards. This celebrated surgeon allowed me to make an application on the ulcerated part, under the malleolus. The ulcerated excrescence was one line beyond the skin; schirrous and melanic tissues were felt round it. The escharotic paste being applied, the following day the excrescence was

quite circumscribed; a few days after, it came off, and the sore looked well; but the paste had only been applied on part of the Cancer; and although it was one of a very bad nature, I begged MR. LAWRENCE to allow me to continue the caustic application on the whole part that was affected. Permission being granted, on the 14th of November, in the presence of several students, I applied the caustic to the tissues.

On the 15th the preparation was removed, and the effect was a white eschar, very adherent.

When I made this application, I was fully aware that the patient was by no means calculated to shew the advantage of the Escharotic paste, as *le Cancer Melané de la peau* on account of its regenerating properties, may, according to ALIBERT, be termed *Redivivus*. But what would have been done for the patient in question? An operation with the knife would have been performed, which would not have prevented the cancer growing again, as is often the case; but the Escharotic paste might undoubtedly be applied, as its powers and capabilities are yet unknown.

I am anxious to prevent objections being

made, particularly those that might be caused by prejudice, and repeat that the patient had on his leg, what ALIBERT calls a *Carcine Melanée*; and JURINE of Geneva, termed *Anthraxine*: above the internal malleolus of the right leg, there was a black stain surrounded on all sides by an increasing hardness. Under the malleolus, there was an ulceration, with fungous edges, three inches in circumference. I wish this fact to be clearly understood, lest at any future time, there might be a doubt respecting the nature of the case I have treated.

16th. The white Eschar became rather yellow.

17th. The same Eschar appeared isolated, and the line of separation visible.

18th. The Eschar of the ulceration came away; that of the black stain began to get loose.

19th. The Eschar became loose.

20th. The Eschar was detached from the bottom; but it is remarkable that the Eschar had lost its whiteness, and the diseased tissue was distinctly visible.

21st. Two thirds of the Eschar came off: the surrounding tissues, less hard, and there was a slight suppuration.

22nd. The Eschar became detached; underneath the wound, there were apparently diseased and black tissues: towards the upper part of the leg, there were also black tissues; diseased tissues: towards the lower part of the wound, there were white tissues; the cellular tissue was schirrous: there were several indurations towards the centre; the *isthmus*, separating the two wounds was hard, and required to be taken off by the caustic.

A slight application of paste was made on the black tissue, which concealed the Eschar; the patient felt less pain; the paste was modified, and no sedative potion was given.

This partial application towards the superior part of the wound, had the same success as the preceding applications; the 2nd December, the wound was healing rapidly, but there remained an induration between the two wounds. I thought it advisable to take it off, and I made a new application. The patient had such confidence in the efficacy of the paste, being aware of its salutary effects, that he

begged the induration that remained might be removed.

It must not be supposed, because I made several applications, that I had any doubt as to the treatment. The first day I saw the patient, I told MR. LAWRENCE, publicly, my opinion was, that all the indurated part should be taken off; but MR. LAWRENCE, thought it prudent only to permit a partial application in the first instance, and consequently several applications were necessary: if the patient has not yet left the Hospital, he will do so shortly.

CASE VII.

Ulceration of the Womb.—Cured by an Eschar.

Mme. E. forty years of age, scrofulous constitution, subject to hysterical attacks, was married at twenty-six, her menses appeared at fourteen: she was several years without children, and she was so anxious to become a mother, that she consulted several surgeons on the probable cause of her barrenness, but receiving no satisfactory answer, she obtained access to a medical library, eagerly sought the desired information, and finding that sterility was sometimes owing to a membraneous

pellicule at the entrance of the uterus; she fancied this might be her own case; and she tried by all possible means to do away with this obstacle: the result was a violent hemorrhage, the cause of which she carefully concealed; she soon recovered, but continued pale for a long time. Two months afterwards she was *enceinte*: she was twenty hours in labour, and suffered considerably; she nursed her infant, though her menses appeared regularly: shortly after, she was again in the family way; her accouchement was easy; she again tried to nurse her child, but was soon compelled to wean it.

In May last she had a violent discharge of some sanguine fetid matter; she felt great pain in her limbs, in the groin, and stomach, and she grew thin. I assured her that a complete exploration was unavoidable: she hesitated some time, but at length made up her mind. Through the speculum uteri I saw an ulceration of a bad nature, embracing the neck of the womb; and giving a fetid and corrosive discharge. I touched the neck of the womb, and it was very hard. I applied leeches on the uterus, and prescribed emollient injections: but finding the fever still continue, the general health decline, and a putrid discharge

from the uterus, causing great irritation, I resolved to apply a slight portion of paste of chloride of Zinc, the size and thickness of a shilling. I kept it on the neck of the womb with a pessary *à bilboquet* for five hours: when taken off, a white eschar covered the whole of the ulcerated part, there was no discharge, the action of the paste had been confined according to my wishes: and the pain was less acute than I had expected.

I certainly could, with this patient, have applied *nitrate acid of mercury*: I had seen LISFRANC and RECAMIER use it, and had often applied it myself, but in giving the preference to the chloride of Zinc, my object was, to correct the fetidity of the discharge, and to make only *one* application; and this would not have been sufficient with the *nitrate acid of mercury*. As soon as the chloride of Zinc was taken off, injections, emollient poultices, and hip baths, were constantly employed. The fifth day the eschar began to separate; the secretion that still existed was of a different nature from the discharge previous to the application of the paste: it was neither fetid nor irritating. The sixth day the eschar came away, it was the size of a shilling but thicker; the wound looked healthy; the induration of the neck of the

uterus was considerably diminished. I prescribed emollient injections, the wound healed, the discharge ceased, the fever was cured, and the patient recovered her *embonpoint*. This treatment lasted only two months.

I must admit that I felt some hesitation in applying the chloride of Zinc to the uterus: I feared an inflammation of the womb, or of the peritonœum, but neither of these accidents occurred.

I saw Dr. C. apply the paste of chloride of Zinc on a cancerous excrescence inside the mouth, and I naturally concluded it might be put on the uterus. During my late stay in Paris, I saw a young Italian who had consulted Dr. C.: he proposed an application of chloride of Zinc to the neck of the uterus, to which she then consented, but would not afterwards submit.

What cause can there be for fear, when chloride of Zinc is applied on a large extent of tissues; on the whole breast for instance, without causing any accident; and there is no reason to suppose the uterus more tender than the breast.

Owing to the use of the *speculum*, the diseases of the womb are fortunately within the reach of art. An ulceration of the womb can be cured by topical applications, nearly as well as an ulceration of the leg or arm; and I have no doubt but that the number of diseases of the womb, that generally prove so fatal, will be considerably diminished, if females submit in *time* to the necessary treatment; by which means the progress of the disease may be arrested.

I could relate many cases of diseases of the uterus, that have been successfully treated by caustics, *nitrate acid of mercury*, sulphate of copper, or by chloride of sodium, but as this might give umbrage to some patients, I must be silent, though for the benefit of science and humanity I should willingly make them known: but I shall make up for this deficiency, by mentioning cases of patients, I saw in MR. LISFRANC'S Hospital, in Paris, where cauterization was successfully employed in preventing cancerous diseases in the womb, and I have stated this particular case, because few women will submit to the excision of the womb, and would probably have less dread of the application of the paste.

ON CAUSTICS.

Among the many diseases which affect the different tissues, some are trifling, and are cured by abstinence, and the assistance of nature; there are others on the contrary, that are serious, and threaten destruction, which no effort of nature can cure; they must be eradicated from the economy, to guard it against contagion, and preserve it from death.

All the variety of cancers, called malignant diseases, baffle the resources of art, unless they are cut away or burned either with iron or caustic. In most surgical works there is a great deal written respecting the manner of using the knife, as well as on the method of burning, but much remains to be said on caustics.

All caustics do not act with the same energy: some produce a slight, and superficial eschar on the tissues; others produce a complete disorganization; the former are called catheritics, the latter caustics or escharotics.

Formerly great use was made of pulverized caustics, calcined alum, powder of Iris, of sabine, of sulphate of steel, and of copper, but all these caustics merely act superficially.

DUPUYTREN and J. CLOQUET, have frequently employed the nitrate acid of mercury; LISFRANC, the chloride of sodium, as far as six degrees; RECAMIER, the caustic of potass; several English surgeons employ potass, but the acid nitrate of mercury, as well as the chloride of calcium, act only superficially, and would require numerous applications to take off a cancerous mass of an inch, or more, in thickness.

Arsenic has been most frequently employed either externally or internally. THEDEN, RICHTER, SIEBOLD, STARK, BIERCHEN, ATHOF, SCHINALZ, and many other practitioners have administered it internally. LODER, LENTIN, SELLE, TODE, PSHAEKLER, HANNEMANN, COLLENBUSH, &c. &c. have prescribed it externally — ARNEMAN, KLEIN, HARGONS, the Brothers COME, LE FEBURE, and JUSTAMOND; PLUNKET, ADAIR, GUY, SIMMONS, in England, have used it both internally and externally; RUSH, and MARTIN, in America; RONNOW, in Sweden; FLUSHMAN, BACHMAN, in Germany; LINSLOW, WARD, BOYSEN, BEAUFEIR, in Denmark; FLAJANI, LOCATELLI, in Italy, &c.

No preparation has had so much celebrity, as

arsenic, although its principal effect was producing an eschar; but the danger of its absorption has rendered its employment extremely difficult, owing to its frightful results, and patients being unwilling to submit to the application. ROUSSELOT's powder, and principally that of the brothers COME, as well as the one modified by DUBOIS were intended to prevent the absorption without reducing its escharotic effect. But as there is no certainty in the result, the application can only be used for superficial Cancers, and wounds that are caused by the extirpation of the Cancer. Arsenic preparations have not only failed in Cancers, but have produced the most serious accidents, poison and death.

The paste of chloride of zinc, is entirely free from the danger to be feared from other preparations; and independent of its utility in Cancerous affections, it has been useful in modifying the state of tissues in numerous diseases.

The chloride of zinc, which will, when better known, become one of the most beneficial and useful agents, is nowhere mentioned in the treatises of Therapeutics. A comparative sketch of the action of the most known caustics, will immediately shew the advantages to be derived from their several use.

CAUSTIC POTASS.

Caustic Potass creates a burning sensation half an hour after the application; the heat increases, and does not cease for six or eight hours. This caustic loses its action in twelve hours; the Eschar produced by it covers the depth of the skin: it is soft, dark grey, and is fifteen, sometimes thirty days before it comes away, according to the suppurative means employed.

The extreme deliquescence of potass, and the slowness of its action have cast on it a certain discredit. The deliquium of potass prevents its action being limited or depended upon. The eschar is sometimes larger than wished for, and extends itself to a greater depth than necessary.

It has been justly observed, that the slowness of cauterization, occasions great inconvenience, as the surgeon is obliged to cover the caustic with a bandage that is easily displaced, and permeable to atmospheric humidity, which prevents the escharotic action of the alkali being seen and properly directed.

Whilst visiting cancerous patients, I often heard DR. CANQUOIN speak in praise of the

Vienna powder, a preparation which he sometimes used, composed merely of a mixture of potass and lime; which produces a fine grey powder.

In MR. JORDAN'S Universal Pharmacopeia, there is a prescription of a caustic paste, formed by the mixture of potass and lime, but the proportion of potass is insufficient, and the preparation inferior to potass alone; besides which it loses the power of rapid cauterization.

Vienna powder is thus prepared:

Quick lime, six parts,
Caustic potass, five parts.

I have sometimes seen a small brush used, made of lint; but the effect is slower. It is better to make the potass in a paste, with alcohol; and apply it in that state to the part to be cauterized. The pain caused by this application is far less than that felt from the use of potass alone. The skin is cauterized, as far as the cellular tissue, in five minutes; and on the edges of the paste there appears a small grey line. The paste is taken off, and the eschar washed with vinegar. If a deep cauterization be required, the paste is left on fifteen or even twenty

minutes. The lime prevents the liquidity of the potass, and takes off the carbonic acid which still remains. A similar preparation is used, I believe, by SIR BENJAMIN BRODIE, at St. George's Hospital. When the surrounding parts suppurate actively, the eschar comes away in four or five days; but when they are healthy, have little vitality, and the patient is weak, it is fifteen or twenty days before the eschar comes away.

NITRATE OF SILVER.

IN DR. HIGGINSBOTTOM'S excellent work on this subject, so much has been written, that to make good the comparison I wish to establish, I shall borrow from this author, what he has said of the use of Nitrate of Silver, as a therapeutic means of curing by eschars.

Whenever Nitrate of Silver is applied, it produces a white film; if exposed to the air, in a few hours it becomes dark grey, and as the eschar changes colour, it becomes gradually harder, and resembles a piece of black plaster. According to the state of the wound, a few days afterwards, the eschar becomes wrinkled, and the edges are detached, and it finally comes

completely away, leaving the surface of the wound, which is underneath, in a state of cure. In the formation of the eschar, several things claim special attention. The nitrate of silver must not merely be applied on the wound, but on the surrounding parts, for when the eschar dries, it is drawn up, and thus might leave a space between the edges of the healthy skin.

The nitrate of silver should be lightly and carefully applied, so as to cover every part of the wound; and if surrounded by any inflammation, the skin should be wetted with a little water, and the nitrate of silver put gently on it. The edges of the eschar, must on no account be detached, as it becomes a guard to the wound, and promotes its cure; and preventing the action of the air, renders plasters and dressing unnecessary. DR. H. has applied gold beater's skin around the edges of the wound, to keep the eschar on. No fatal results have arisen from the slight inflammation, which is generally found round the eschar; nitrate of silver is put on the inflammatory part.

DR. HIGGINSBOTTOM, mentions the remarks made by JOHN HUNTER, on the comparative effects of cauterization after an eschar, and a

scab. The cure effected after an eschar, is decidedly better than any other, for while the scab is irritable, painful, and surrounded by an inflamed circle, the eschar is neither inflammatory nor painful; the scab being always inflamed, is not easily cured, while the eschar gradually heals, leaving the surface underneath, free from any sore. When the eschar does not stick, it arises from an accumulation of matter, which must be taken away, or a scab will be formed; and if the eschar does not come off nicely, there is a great deal of pain and inflammation; the wound does not heal, and a cold poultice must then be applied, which takes away the irritation: the nitrate of silver is then applied again. Gold beater's skin, is frequently used, when the eschars do not stick: but if there be any fluid under the eschar, the skin must be taken off. The pain caused by the nitrate of silver depends on the size, and state of the wound. The pain is more acute, when the sores are recent, than in chronic ulcers; but in every instance, the pain does not last long and is not intense. Sometimes no eschar can be procured, either attached or loose; yet a cure can be obtained by persisting in using poultices, until a sticking eschar be formed, and the ulcer cured. This method must be adopted when sores have been neglected, and there are ulcerations and

swellings; the pain and swelling, are moderate, and the secret fluids easily find an issue.

There appears nothing to add to Mr. H's judicious remarks; but the comparative analysis I am making, rendered it necessary to refer to them.

NITRATE ACID OF MERCURY.

The nitrate acid of mercury, has been long known in Therapeutics. RECAMIER frequently employed it in ulcerations of the womb; and LISFRANC has made known all the advantages that could be derived from it, by practitioners who understand how to employ it.*

Nitrate acid of mercury, is principally used at the *Hospital de la Pitié*, for the different ulcera-

* For the last thirty years, RECAMIER has made use of the nitrate of mercury, in preference to the arsenic paste: his method of cauterizing, is by dipping balls of lint in the nitrate acid of mercury; then places them on the ulcer, and according to the eschars he wishes to obtain, leaves them on a quarter of an hour, or more, pressing the lint occasionally, that the acid may penetrate in the carcinomatous tissue.

The cicatrix that result from the action of the nitrate acid of mercury, cause less deformity than those of the arsenic paste and potass; for which reason it is better adapted for cancerous pimples on the face.

This caustic agent is not dangerous, if carefully used, but it is essential only to apply it on the diseased tissues, which is easily done by making use of lint.

tions of the womb. I have also seen it employed in inflammations and phlyctens of the uterus, after the antiphlogistics. It has been remarked, that the redness often turns to ulcers. MR. LISFRANC, touches the surface of the womb with lint steeped in solution of nitrate acid of mercury; the inflamed part becomes white, and a cure is sometimes effected in a week.

LISFRANC considers cauterization with nitrate acid, as the best therapeutic means for simple ulcerations, but whenever the womb is either partly or entirely swelled, it must be dispensed with.

LISFRANC employs the same means for the neck of the womb, as ALIBERT for the cauterization of cutaneous inflamed herpes. Superficial cauterization, is employed rather to change the vitality of tissues than to destroy them. Cauterization is intended to modify the surface of the ulcer, to prevent the exuberance of the granulation, and to diminish hardness, or hypertrophy, which surrounds the ulcer.

No stated time can be fixed on for a complete cure, some women are cured in a few days, others are three or four months, and others again still longer.

In cancerous and vegetative ulcerations of the neck of the uterus, LISFRANC employs cauterization, and particularly when the ulcer is not large.

In strict conformity to LISFRANC's principles, I have frequently had recourse to cauterization of the neck of the womb, and have always found it succeed.

In the month of June last, when I visited the Hospital of *la Pitié*, MR. LISFRANC, being aware that I had written an essay on the diseases peculiar to women, kindly pointed out all the patients affected with diseases of the womb. I took down the cases as they were that day:—

Ulceration, seated on a prominent part of the neck of the uterus (cauterization).

Two ulcerations on the mucous membrane; the largest in the front, the other behind (cauterization).

Strong hypertrophy of the fore lip—bad ulceration (no cauterization).

Hypertrophy of the anterior lip—large ulceration on the right side (no cauterization).

Ulcerations with aphtha (cauterization).

Slight ulcerations in the posterior lip (cauterization).

Swelling of the womb (no cauterization).

Superficial ulcerations on the neck of the womb (cauterization).

Hardness of the neck of the womb: white and cartilaginous (cauterization).

Superficial ulcerations, looking white (cauterization).

Ulcerations with vegetations (cauterization).

Posterior ulcerations on the neck of the uterus (cauterization).

Swelling and inflammation (no cauterization).

Idem (no cauterization).

This slight sketch taken by chance at the *Hospital de la Pitié, in Paris*, gives an idea of the indications, and non indications.

I was surprised to see the patients so slightly affected, and was assured by MR. LISFRANC,

that since women had consented to be cauterized without loss of time, Cancers of the womb were much less frequent in that Hospital.

It is not the time to enter into minute details of MR. LISFRANC'S opinions and practice; but I cannot avoid referring to the Surgeon of the *Hospital de la Pitié*, when mentioning the nitrate acid of mercury, which, when used judiciously, may prevent so many cancerous affections. There is no malady in which the *principiis obsta* may be better applied.

The *eschar* produced by the nitrate of mercury is red on the outside, and grey on the tissues; it is somewhat hard and thick.

Sulphuric acid.—Superficial action; the pain not lasting; eschar dark grey, hard and thick.

Hydro-chloride acid.—White eschar, hard and thick.

Nitro-muriatic acid (eau Regale) eschar, hard, yellow and thick. MR. RECAMIER has latterly made use of gold dissolved in *nitro-muriatic acid*.

I have seen caustic applied on small glands, of the granulations of the lymphatic vessels,

principally in the breast; after several applications, the glands disappeared;* the proportions are an ounce of acid, and six grains of pure gold.

ARSENIC.

The powders of the Brothers COME, ROUSSELOT, DUBOIS, only differ in small proportions; the principal agent of this preparation, is arsenic in a state of oxide.

According to CH. DEVERGIE, the powder of ROUSSELOT, is composed of fifty six parts of sulphuret of arsenic, sixteen parts sanguinis draconis, and two parts oxide of arsenic.

* The efficacy of gold dissolved in nitro muriatic acid, was discovered by mere chance: a jeweller who had a cancerous pimple on his cheek, was dissolving gold in nitro muriatic acid, and having accidentally rubbed the pimple, felt unusual pain, after having rubbed it several times, while his fingers were impregnated with *aqua regalis*; shortly after the pimple disappeared. MR. RECAMIER made several experiments on different patients with equal success. In my own practice I have applied gold dissolved in *aqua regalis* on ulcerated surfaces: I have also applied it on some tubercles, or indurated glands, and after a few applications, they have disappeared.

It is a caustic that can be of great service, particularly when the patients have been previously subjected to syphilitic diseases, or when the ulcers are of a syphilitic nature.

The powder of the Brothers COME, contains two hundred and twenty parts, one hundred and forty-two sulphureti hydrargri rubri, forty-eight oxide of white arsenic, twelve parts of sanguinis draconis, and eight of cinders of the soles of old shoes.

MR. DUBOIS's powder, is generally prepared with sixteen parts sulphuret of mercury, eight parts sanguinis draconis, and one part oxide of arsenic.

These three powders are the only ones now in use, but there are several other arsenic powders. JUSTAMOND's powder, is composed of sulphate of antimony, and oxide of arsenic. HILLMAND's salve, taken up by the Prussian Government, differs but slightly, from that of the Brothers COME. The anti-cancerous remedy of DAWDSON; that of GUY, formerly used in England; that of CHENET, and the powder of PETER ELLIOT, so renowned in the 17th Century.

FUSCH appears to have been the first who applied arsenic paste to degenerated parts. On ulcerated cancers he spread a powder composed of white arsenic, soot, and the root of

serpentaria. A few days afterwards all the ulcerated surface was covered with an eschar, more or less thick; when it came off, there remained a sore which admitted of cure, but sometimes a bad fever ensued, accompanied by shivering and vomiting, and the remedy was necessarily given up.

In 1778, RONNOW, published in his memoirs of the Academy of Sciences, of Stockholm, a dissertation on the medical properties of arsenic acid, in which he stated, that during the fifty years he had made use of that remedy, he had cured thirty Cancers.

SIR EVERARD HOME, in his practical observations on the treatment of ulcerated legs, greatly commended the good effects of arsenic, employed externally and internally. Unfortunately the flattering hopes that were thus called forth, have not been justified; and a greater number of Practitioners, have given various opinions deprecatory of the use of arsenic, either internally or externally. Without attempting to settle this difficult question, it is certain that one of the great obstacles to the employment of arsenic, as a topical application, is its absorption.

There are many examples of persons being poisoned, by the different powders employed; and these misfortunes, have been undoubtedly caused by absorption of arsenic. FERNEL, ROUX, L. SMITH, DESGRANGES, RENAULD, have mentioned several cases of poison through the arsenic paste; nevertheless I have seen it frequently employed without this fatal result, yet as death has sometimes followed the application, it is necessary to be very cautious how it is used, and much practice is requisite to handle this drug with safety, notwithstanding the recent discovery of the property of tritoxide of iron *hydraté*.

The arsenic paste of DUBOIS is certainly less dangerous than any of the above named; and is employed in the following manner.

The most favorable time for applying the arsenic Caustic, says M. PATRIX, varies according to the extent of the wound. When the wound has a very small surface, it may be applied immediately after the operation, or after the hemorrhage has ceased, or in short before any inflammatory symptoms appear, which is on the third day after the operation. When the wound is large, the application of caustic must

be deferred till the end of the second period, when all inflammatory symptoms cease.

An essential point in the application of caustic is to shape the paste, so that it may stick on the surface of the wound; to accomplish which, it is necessary to have a spatula, and use a little saliva; to roll it in a contrary direction to the suppuration of the wound. The caustic paste must extend a few lines beyond the circumference of the wound; unless this precaution be taken, the swelling which soon takes place, increases the diameter of the wound, and it would extend farther than the paste. When there is any particular secretion, the first step to be taken, is to prevent its continuation, or else the caustic would be dissolved, and would not adhere to the wound. When the arsenic paste is applied on the eye lids, a small leaden plate is used, to give a different direction to the tears; on the lips, by closing them with a blade of the same metal; on the nostrils by placing a sonde of indian rubber in their cavity. The intensity of caustic is proportioned to its thickness; and its power, which is very great, may be moderated. When excessive pain is felt in different parts of the wound, which denotes the remains of a cancerous affection, any attempt to relieve the pain is useless,

as it is an inevitable effect of the action of the caustic, and does not exist when the caustic ceases to act.

Whenever the arsenic paste is employed, it should be thickly covered with cobweb, and slightly wetted with saliva. The paste and cobweb are easily combined, and form a dark thick mass, which soon dries up. The patient should remain in an horizontal position, so that according to the laws of gravity, when the arsenic dissolves, it may not touch any part that it is necessary to preserve. Pain (the natural consequence of any corrosive action) is frequently felt immediately after the application of caustics, and sometimes deprives the patient of all repose; but much depends on the constitution of the individual. The pain is always greater upon the application of the paste, when any cancerous affection remains; and this pain is always attended with swelling. At the end of the fourth or sixth day, the pain caused by the corrosive action, gives way to lancinating pains, which always precede suppuration. A line is then formed, as in cankers, between the eschar and the healthy parts, and the swelling disappears.

The effluvia emitted, is not at all like that

which results from the eschars of simple sores : it is a smell which belongs to this caustic, and is much like garlic : thus it is easy to recognise arsenic in any animal matter.

The eschar becomes loose the fourth or fifth day, and only comes away on the ninth or fifteenth.

If while the eschar is detaching, any inflammation takes place, it must not be attributed to the action of the caustic. Local means must be employed, and should be chosen among emollient substances : but the whole paste must previously be removed. Chemical analysis has proved, that the paste of caustic, near the cobweb, still contains a great deal of arsenic.

The wound must be dressed with bandages of lint and salve, or with some emollient substance; in short in the cleanest manner possible.

During the cicatrization, or sometimes after it is completed, the cancerous parts grow afresh, and new extirpations must immediately be had recourse to with the caustic, particularly if the disease decreases after each application. Sometimes the surface of the wound has a great tendency to increase, and grow beyond

the level of the skin. Nitrate of Silver is then employed very successfully, but if it cause any pain it should be discontinued.

CHLORIDE OF ZINC.

It is generally allowed that chlorides have a disinfecting property; they are used in amphitheatres, and in places where there is putrid effluvia or any great quantity of sulphuretted hydrogen.

In reading MR. GENEST'S observations on typhus fever, taken from MR. CHOMEL'S practice, the good results arising from the use of chlorides evidently prove that they possess *antiseptic properties*: and in chronic ulcers of different natures, and abundant suppurations, chlorides have had the most beneficial effects.

The chloride of Zinc, if used in cancerous affections, not only modifies the state of the wound, by destroying the unhealthy tissues, but purifies the surrounding atmosphere. The improvement that takes place in large ulcerations, as well as a cessation of the repulsive smell, are indeed striking.

It is unfortunately too well known, that Cancers are never cured without the assistance of art, and that there is nothing to be expected from nature. The resources of art have indeed been nearly exhausted—the most energetic, as well as the most formidable means, have been resorted to; and with but greater or less certainty of result. The science of chemistry has at length unfolded the means of supplying the deficiency of art; an agent has been furnished capable of arresting the afflicting malady, and that agent so valuable to mankind may without hesitation be said to be chloride of Zinc.

I have clearly stated what is to be expected from the caustics generally employed. Nitrate of silver, valuable in some cases, merely acts superficially. Nitrate acid of mercury has the same effect, and it is probable that these two preparations owe their caustic properties to the nitric acid, and that mercury, and silver, are merely intermediate bodies. The potass, prepared as at Vienna, offers great advantages, but the eschar is soft, and followed by an abundant suppuration.

Arsenic preparations have been most in vogue, and I think deservedly so; but who can use them without dreading the result?

Chloride of Antimony is too painful, and causes too many accidents when applied on large surfaces. It became therefore necessary to find a remedy which could destroy the morbid tissues without fear of absorption; and with an action that could also be limited to the surface and depth required; these advantages are all possessed by the chloride of Zinc; and we are indebted for this discovery to the researches of DR. CANQUOIN.

The paste of chloride of Zinc acts on the tissues according to the state they are in, whether raw, covered with membrane or an epiderm. In the first case the action is more rapid; the caustic penetrates deeper. In the second case, the action is slower; and in the third it is often wholly inefficacious.

DR. C. says, that as the paste is elastic, it can only be conveniently applied on flat surfaces; for if hollow or convex, it must be modified, by adding a portion of antimony; and diminishing the body of paste according to the depths of the tissues to be destroyed. A tumour may thus be completely removed if the thickness be well calculated.

DR. CANQUOIN'S paste is a composition of

chloride of Zinc, mixed with flour, in various proportions. I had spoken of the effects of chloride of Zinc to a young English Surgeon, who has, since been making experiments in St. George's Hospital, in MR. HAWKINS' ward; but instead of using flour he substituted sulphate of lime; and though this substance does not affect the properties of the chloride of Zinc, yet, *this mixture*, in my opinion, has a great defect; the paste becomes like plaster and loses its elasticity: it may break, and at all events applied on a diseased tissue, will add greatly to the pain.

The time the paste remains, is dependent on the quantity of chloride of Zinc, and on the nature of the tumour. When the paste has remained on for twenty-four hours, and the dressing is removed, there is an eschar clearly circumscribed; the dead tissue still adhering to the living tissue, which is somewhat inflamed, without swelling, as in the arsenic applications. The eschar is hard, compact, thick and white; the patient has some degree of fever: when the caustic is taken off, the pain ceases.

The second day it is less adhesive; the line of separation is marked, and it loses its white-

ness. The edges that surround the eschar, and which were previously hard, become soft; there is still less fever, and but little pain.

The third day, the eschar begins to come away; it turns yellow, and there is a slight suppuration; generally without pain, or fever; and the functions of the economy are regular. The eschar is surrounded with but slight inflammation, and the schirrous tissues are softer.

The escharotic paste, applied on a tissue not ulcerated, and on an ulceration, do not present an eschar of an exactly similar nature; the eschar of the ulcerated tissue is well detached on the third and fourth day: and if it be pressed, it suppurates; while if the tissue be not ulcerated, it is adherent, till the fifth and sixth days; it is circumscribed by a sort of white mark; there is fever and a little pain: sometimes the patients complain of pain in the thighs, when the eschar is on the leg; in the neck, when it is on the face; in the axillary region, when the Cancer is in the breast, or on the arm; so that the pain seems to run through the lymphatic vessels, and to correspond towards the ganglionic centre.

Notwithstanding the pain felt in the lymphatic centre, it is not possible to suppose there is any absorption of chloride of Zinc; for if absorption took place, the symptoms of poison would soon be evident; but this precious advantage of non-absorption only exists when the paste is properly prepared. I have applied two drams of chloride of zinc at a time, and the patient has been quite well, and without any symptoms of poison.

When the eschar comes away, the place should be carefully examined, and if a schirrous part exist, it must be removed, or it will increase.

After an operation with the knife, sufficient pains are not taken to ascertain whether any hardness remains; but the time will shortly come, when the number of repullulations after operations with the knife or caustic will not pass unnoticed

Many practitioners have the habit of applying arsenic paste, or using a brush imbrued with a solution of arsenic on the raw tissues immediately after the operation, which indicates a fear lest the Cancer should return, and that they hope to come to its root

by applying the caustic. All this appears very judicious, but as I have already stated, the preparations of Arsenic are dangerous, if not employed with extreme care.

These preparations never penetrate deeply; but the chloride of zinc can be used with advantage, and is preferable to arsenic, as it reaches the root of the evil.

Mr. LAWRENCE shewed me a cancerous production he had cut from the leg of a lady who was sixty years old. After the excision there appeared a dark substance which rested on the bone, and might be considered the foundation of the excrescence. To the part of the bone which answered to the peduncle, he applied a little chloride of zinc, thus combining excision and cauterization.

The comparative merits of excision and cauterization, might perhaps be here discussed; but I put aside all polemics, and am of opinion that clever surgeons, who are neither anxious to perform operations, nor fond of cutting, (which is sometimes the case) may derive immense advantage from the new application of chloride of Zinc. Let it not be supposed that I look upon it as a panacea: but I am convinced, that

it will become of the greatest utility in practical surgery. If there be any doubt as to the benefit that can be derived from changing Cancers to Eschars, numerous facts might be adduced to remove all hesitation on the subject; but the advantages of this preparation are so satisfactorily proved in the cases that I have seen in Paris, and London, that there can be no doubt but it will be of the utmost utility in the treatment of Cancers, and bad Ulcers.

DR. C. generally employs four preparations; the three first have the following energy, in progression, 3, 2 and 1. The fourth has a particular property, and contains a portion of chloride of Antimony. These preparations forming a paste are reduced to leaves, from two to four lines in thickness.

I have endeavoured to render the application of the paste less painful; that used by me at St. Bartholomew's Hospital, is prepared from the receipt given by DR. CANQUOIN to the Academy of Medicine, but with my modifications. The patients at St. Bartholomew's have complained of pain, during the whole time the application lasted. DR. C. advises the pain to be alleviated by administering eight or ten

drops of laudanum in the fourth part of a clyster. I have prescribed thirty drops for a patient at St. Bartholomew's, but I prefer preparing the paste, so as to render its application less painful.

The formula given by Dr. C. in the Academy of Medicine, at Paris, and repeated in his memoir, are as follows:

1st Preparation.

Chloride of Zinc, one part,
Flour, two parts.

2nd Preparation

Chloride of Zinc, one part,
Flour, three parts.

3rd Preparation.

Chloride of Zinc, one part,
Flour, four parts.

4th Preparation.

Chloride of Zinc, one part,
Chloride of Antimony, one part,
Flour, two parts and a half,
Plain Water, twenty-four or thirty
drops to an ounce of Chloride.

The observations made by MR. VELPEAU at the Academy were very correct; it is a fact, that the hydrochlorate of Zinc produces also white eschars, though less deep; but other objections can be made to the use of the Hydrochlorate: MR. VELPEAU prepared the paste in the following manner:

Hydrochlorate paste of Zinc.

Hydrochlorate of Zinc, one hundred
and fifty parts,
Flour, fifty parts,

Paste of chloride of Zinc.

Chloride of Zinc, one hundred parts,
Flour, fifty parts.

The paste I generally use, is composed of equal parts of chloride of Zinc and Flour.

When I wish to obtain deeper eschars, I prepare the paste in a reverse proportion to MR. CANQUOIN, but I only require two preparations.

I have tried the mixture of chloride of Zinc with sulphate of Lime; but I decidedly give

the preference to the paste composed with flour.

When cancers are not ulcerated, the epiderm^{is} should be taken off by means of a blister, the following day, the number of the paste suited to the thickness of the eschar, must be applied.

According to Dr. C. the paste No. 1, four lines thick, applied for four days, will produce an eschar from an inch and a half to two inches thick. The same proportion two lines thick, will give an eschar, within two days, of at least half an inch. The paste No. 1, one line deep, will in twenty four hours produce an eschar of three lines. The paste No. 1, half a line thick, in the same length of time, will produce an eschar of at least a line.

The paste No. 2, is used for carcinomatous ulcerations, on very painful cancers that are not deep.

No. 3, is used for every species of cancerous affections, and principally for nervous persons who dread violent pain. In short Dr. C. employs the antimonial paste only, for lumpy cancerous tumours.

When the paste has produced its effect, it is taken off; the eschar is covered with an emollient poultice, until it comes away, which is from the sixth to the eleventh day; the caustic applications are then renewed, until they reach the healthy tissues; after which they are dressed with a simple digestive, or with poultices, till the cure be effected.

Having paid great attention to the pain the patients suffer, it is easy to conceive that the application of the paste No. 1, during four days, would be intolerable; and I have never applied the escharotic paste more than twenty-four hours. The last application I made on a raw tissue, the patient suffered very little.

The pain caused by the application of chloride of zinc is always less than the pain felt after an application of arsenic, sulphate of copper, or chloride of antimony, which lasts nearly two days.

When the chloride of Zinc is taken off, the pain generally ceases: and if pain be made an objection to its employment, the same may be said with greater justice of the arsenic paste.

If my opinion be asked respecting the use of Caustic, I must candidly say, that there are

cases in which it should not be resorted to, particularly when it may produce a deformity. I did not make a fresh application of caustic on the patient's lip at St. Bartholomew's Hospital, because I thought an union might be accomplished, and would cause less deformity than the loss of the substance.

The chloride of Zinc is an additional instrument in the hands of the surgeon; his own sagacity and judgment will point out when it is preferable to excision: I must add an observation not mentioned by Dr. C. in his memoir, which is that the chloride of Zinc possesses a very striking *hemostatic* property: after any operation by the knife, a large cauterization by arsenic or potass, hemorrhage is often to be feared. In the many instances in which I have seen chloride of Zinc applied, and in the applications I have made in my own practice, on surfaces where there are numerous vessels, on the breast, under the arm, on the temples, lips, and even the womb; I have never seen a drop of blood, nor the slightest hemorrhage: and when the action of chloride on the serum of blood on albumen and gelatine, is known, this is easily understood; almost all caustics, and particularly chlorides have the property of coagulating albumen.

The conclusions of DR. C. in his memoir are,

1st. That the chloride of Zinc is less dangerous than any other caustic hitherto used.

2nd. That the eschar produced, falls from the eighth to the twelfth day.

4th. That the Cancer never appears in the place where the paste has been applied, unless there be a diathesis.

To these conclusions I must add, that when the paste is prepared according to the formula I have given, the eschar separates from the sixth day: and that whatever may be the nature of the ulcerated surfaces, it has great power in modifying them; it also destroys the fetid and repulsive smell of the matter that flows from cancerous ulcerations, and annuls its destructive corrosiveness. In fact, if the chloride of Zinc be properly prepared, it can be employed as an *hemostatic*.

OF ESCHAR.

THE name of Eschar is given to a mortification confined to a portion of soft parts.

The Eschar is generally caused by the action of exterior agents, applied to these parts: nevertheless in certain bad fevers, different parts of the body are affected by Eschars.

In chronic diseases lengthened *decubitus* is frequently the cause of Eschars that are found on the teguments of the sacrum.

Artificial Eschars are generally produced by chemical agents, acids, alkalies, or oxides; at other times by animal venom, or a virus, and frequently they are the consequences of an inflammation, or contusion, or death of a limited part.

Boiling water produces a white Eschar: which turns yellow the second day, and soon after comes away. I lately witnessed a very striking example of this fact; a celebrated french actor swallowed some boiling water: the membrane which covered the lips, the palate, the inside of the mouth, and the surface of the tongue, was one immense white Eschar: the third day the eschar of the lips came off: on the fourth day that on the tongue and lips was detached. All the mouth was not free on the fifth day.

Moxa produces a brown or black Eschar.

In mentioning caustics, I stated the colour of the eschar, produced by each, which it is unnecessary to repeat.

The canker generally ceases to extend when the caustic has attained its roots, the larger they are, the greater the inflammation round the dead parts; which inflammation may be attributed to the eschar acting as a foreign body, and thus preventing the free circulation of all fluids; after which a line is evident between the healthy and dead tissue: and the following days this line separates the tissues which form part of the Eschar; a secretion of matter thus takes place, the swelling, and inflammation gradually disappear; the eschar decreases daily; the distance between the dead and living tissues becomes large, and the eschars appear isolated in the midst of the wound; the edges are prominent; the centre forms a sort of cup, more or less deep. Sometimes the eschars are hard, and horny; they are then thick, large, and contain fetid matter. If the separation does not take place soon, it will be advisable to lance them, to give a free passage to the matter. This is no contradiction to what DR. HIGGINSBOTTOM says on the Eschar of Nitrate of Silver, as he only alludes to an adherent Eschar; he afterwards admits the necessity of

making an issue, if the eschar contains putrid matter. When there is no putrid accumulation under the eschar, it should be left to nature, which will soon produce a suppuration on the edges that will cause a separation.

This suppuration is furnished by the healthy flesh, and the swelling and inflammation diminish as it proceeds. Salve is sometimes made use of to hasten the separation of the eschar, but when the inflammation of the surrounding parts is very great, plain poultices are by far more advisable.

The separation of tissues stuck with Eschars is by no means equal; that of the cellular tissue, is far slower in general than that on the skin, and it often occurs that an eschar is detached all round, and merely adheres in the centre, retained by part of the cellular tissue which the caustic has not reached. Sometimes the Eschar is fastened by divers bridles, the separation of which is not waited for; they are cut, and the patient feels scarcely any pain.

When an application of Caustic is made on any fat part, fetid matter easily collects under the Eschar, which seldom happens when applied on thin parts, or on the muscles, There

are Eschars which have an abundant discharge of serous liquid : the separation of others is accompanied by an hemorrhage from sanguine vessels laid open by the eschar coming off. The most simple Caustics, those that have a styptic property, and which form clots at the sanguine extremity, produce Eschars free from danger.

There are soft Eschars so tender, that they must be protected. When the eschar is dry, less suppuration exists in the surrounding parts, and the cicatrization is rapid and healthy. In short, to obtain deep and thick Eschars, and to limit them, *solid* Caustic or paste, must be employed. Thus acids are used in superficial cauterization, nitrate of silver, nitrate acid of mercury to modify the nature of a wound; caustic potass to form setons; arsenic paste to destroy small parts that are not very painful, and chloride of zinc to remove masses of certain depth and breadth.

CONCLUSION.

IN making known the properties of the chloride of Zinc, in collecting those of other Caustics, and sketching the elements of an *Escharotic method*, I trust I have been useful,

and without wishing to establish any comparison between incision and the treatment by caustics, I am desirous that independent minds should reflect on the advantages to be derived from changing the Cancer into an Escar. Instances of cancers becoming mortified, prove that the means of obtaining this result must not be rejected; and when the action of a caustic is well known; its absorption not feared; and there is no danger of poison, its action is then confined to the cancerous parts.

I am fully aware that I have not spoken of the cancerous diathesis, and of the cancerous constitution, because when the Cancer has come to this state, neither the knife nor caustic can cure it. But does it follow that nothing is to be done? Must the patient be left a prey to this fearful malady? Experience has shewn the advantages to be derived from narcotics, a strict regimen, and internal means; according to the state of the *diathesis*, whether scrofulous, syphilitic, herpetic, or nervous; or as the constitution is impregnated with virus; is weakened, or still possesses a reproductive strength, manifested by the Cancer growing again.

These are the elements for a future Work, in which I shall recur to the action of Caustics,

and furnish practical observations, where internal treatment may be happily combined with local applications: it will then be easy to judge from the whole, of the best method of treating cancerous affections. The more I study this formidable disease, either from books or practice, the more I am convinced that this part of science should be revised; and it is to be hoped that some laborious author will collect the numerous materials that exist; submit them to the severest criticism, and make them the foundation of a useful and durable work.

However this may be, when cancerous diseases are beyond the reach of art, and cannot be cured, the sufferings may be mitigated. I shall treat of Narcotics as I have treated of Caustics; for of all maladies, none are perhaps attended with such excruciating pains, and none perhaps more rapidly neutralizes the influence of narcotics; it is consequently by administering them with variety and judgment that these cruel sufferings can be alleviated. If it be said that I endeavour to save patients from operations, I willingly bear the reproach, as I do not believe the *knife alone can cure the Cancer*.

FINIS.